

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: O'Mahony

Application Serial No.: 09/443,986

Filed: November 19, 1999

For: **RETRO-INVERSION PEPTIDES THAT TARGET GIT TRANSPORT
RECEPTORS AND RELATED METHODS**

Confirmation No. 8043

U.S. Patent No.: 7,491,796

Issued: February 17, 2009

Date: March 25, 2009

Commissioner for Patents

Attn: Certificate of Correction Branch

P.O. Box 1450

Alexandria, VA 22313-1450

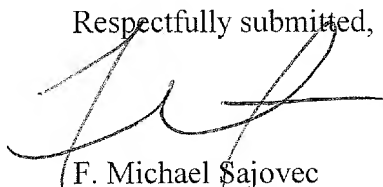
**REQUEST FOR ENTRY OF CERTIFICATE OF CORRECTION UNDER
35 U.S.C §254 AND 37 C.F.R. §1.322**

Sir:

The Assignee of record for the above-referenced patent hereby requests, pursuant to 35 U.S.C §254 and 37 C.F.R. §1.322, that a Certificate of Correction be issued. This request is made in order to correct the mistakes incurred through the fault of the U.S. Patent and Trademark Office. The mistakes appearing in the patent are set forth with corrections on the Certificate of Correction enclosed herewith. Assignee further directs the Commissioner's attention to page two of the Application Specification as filed on November 19, 1999 and the Part B – Fee(s) Transmittal sheet filed on December 8, 2008, copies of which are enclosed.

No fee is believed due. However, the Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,



F. Michael Sajovec

Registration No. 31,793

Customer No. 20792

Myers Bigel Sibley & Sajovec, P.A.

P. O. Box 37428

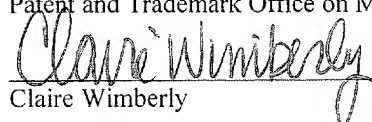
Raleigh, North Carolina 27627

Telephone: (919) 854-1400

Facsimile: (919) 854-1401

CERTIFICATION OF ELECTRONIC TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on March 25, 2009.


Claire Wimberly



**Retro-inversion peptides that target GIT transport receptors
and related methods**

5 **FIELD OF THE INVENTION**

The present invention relates generally to peptides that are capable of targeting or specifically binding to gastro-intestinal tract (GIT) transport receptors. In particular, this invention relates to retro-inverted forms of peptide sequences and motifs, as well as derivatives thereof, which enhance
10 drug delivery and transport through tissue, such as epithelial cells lining the luminal side of the GIT. Production of peptides and antibodies is also provided. The invention further relates to pharmaceutical compositions, formulations and related methods.

BACKGROUND OF THE INVENTION

15 Proteases cleave peptide bonds between adjacent L-amino acids, rendering these peptides susceptible to degradation in the GIT. Artificial proteins or peptides composed of D-amino acids are largely resistant to proteolytic breakdown. However, when D-amino acids are substituted for all L-amino acids in a peptide/protein, the corresponding D-peptide/protein is a
20 mirror image of the original peptide/protein and is likely to have modified or lost biological activity because of this change in conformation. Retro-inverted peptides are peptides having all D-amino acids but are synthesized in the reverse order or sequence compared to the original L-peptide/protein. The carboxy terminus of the original peptide/protein becomes the amino terminus
25 (and vice versa) of the retro-inverted peptide/protein and the resulting side chain surface of the retro-inverted peptide/protein is similar to the original L-peptide/protein. The net result of combining D-enantiomers and reverse synthesis is that the positions of carbonyl and amine groups in each amide bond are exchanged while the position of side-chain groups is preserved
30 (Brady, L. and Dodson, G., *Nature*, 368L:692-693 (1994); Jameson et al.,

PART B - FEE(S) TRANSMITTAL

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590

08/21/2008

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

CERTIFICATION OF ELECTRONIC TRANSMISSION

I hereby certify that this Fee(s) Transmittal is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office, on the date indicated below.

Claire Wimberly (Depositor's name)
 Claire Wimberly (Signature)
 December 8, 2008 (Date)

MYERS BIGEL SIBLEY & SAJOVEC, P.A.

Patent Lawyers
 P.O. Box 37428
 Raleigh, NC 27627

APPLICATION NO.	FILING DATE	INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/443,986	11/19/1999	DANIEL J. OMAHONY	99-1064115 9701-15	8043

TITLE OF INVENTION: RETRO-INVERSION PEPTIDES THAT TARGET GLYCOPROTEIN RECEPTORS AND RELATED METHODS

Retro-Inversion Peptides That Target GIT Transport Receptors and Related Methods

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440 \$1510.00	\$0	\$0	\$1440 \$1510	11/21/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROBINSON, HOPE A	1652	514-002000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Myers Bigel Sibley
 & Sajovec, P.A.
 2
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Merriem Research III Limited

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Dublin 2, Ireland

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 50-0220 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Date December 8, 2008

Typed or printed name F. Michael Sajovec

Registration No. 31,793

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 1

APPLICATION NO.: 09/443,986
PATENT NO. : 7,491,796
ISSUE DATE : February 17, 2009
INVENTOR(S) : O'Mahony

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page, Item 54 and Column 1, Lines 1-3:

Please correct the title to read as: RETRO-INVERSION PEPTIDES THAT TARGET
GIT **TRANSPORT** RECEPTORS AND RELATED METHODS

On the Title Page, Item 74:

Please correct the Attorney, Agent, or Firm to read as: **Myers** Bigel Sibley & Sajovec,
P.A.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Myers, Bigel, Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627